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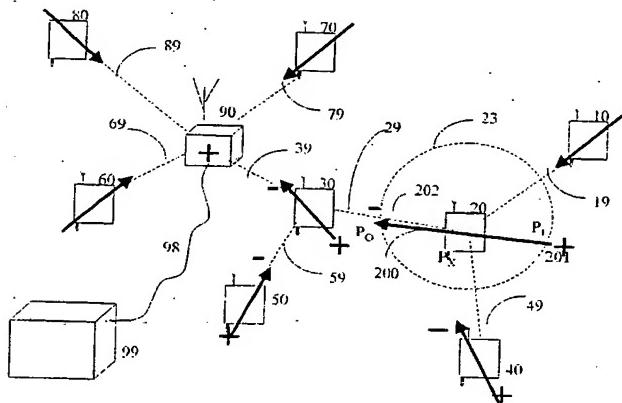
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**(54) Title: AD HOC COMMUNICATIONS SYSTEM**



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**(57) Abstract:** A number of data collection devices (10, 20, 30, 40, 50, 60, 70, 80), are free to move relative to each other through their environment, collecting data from their environment. They form an ad hoc wireless network (19, 29, 39, 49), etc in which data collected by a device (20) either by its own sensors (23), or relayed from another device (10) is transmitted to a destination (90) either directly or by means of one or more other devices (30). The destination (90) collects data collected by the mobile terminals (10, 20, 30) etc for subsequent processing. The wireless links (19, 29, 39) etc between them have to re-arranged in order to provide the optimum network. When two devices (20, 30) come into proximity to each other, a forwarding direction (200) is determined to identify to which device (30) data should be forwarded. The devices co-operate to define their forwarding directions by exchanging data relating to their physical locations, and factors such as the spare capacity of their buffer stores, and battery condition. Thus a network (19, 29, 39) etc will be defined dynamically, each device having its forwarding direction (200) aimed in the direction of the next device until they reach a sink.

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